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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,390	10/13/2006	Laurent Labrousse	285948US0PCT	1129

22850 7590 09/21/2010

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EXAMINER	
XU, LING X	

ART UNIT	PAPER NUMBER
1784	

NOTIFICATION DATE	DELIVERY MODE
09/21/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/568,390	LABROUSSE ET AL.	
	Examiner	Art Unit	
	Ling Xu	1784	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,5,7,8,10,11,13-16 and 21-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,5,7,8,10,11,13-16 and 21-25* is/are rejected.

7)☒ Claim(s) *12* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/31/2010 has been entered.

Claim Objections

2. Claim 21 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 21 depends on claim 5 and claim 5 depends on claim 1. However, claim 21 recites the limitation, "wherein the multilayer substantially retains its properties after a heat treatment at a temperature of at least 500°C", which was already recited in claim 1. Accordingly, claim 21 does not further limit the subject matter of claims 1 and 5.

Claim Rejections - 35 USC § 102/103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 5, 8, 10-11, and 21-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Arbab et al. (US 5,942,338).

Arbab discloses a multilayer high transmittance, a low emissivity coated article comprising a transparent glass substrate having deposited thereon in turn an antireflective base layer such as zinc oxide, a metallic reflective layer such as silver (col. 6, lines 50-60), a primer layer such as zirconium (col. 7, lines 45-60), a MDE layer comprising zinc oxide, and a protective overcoat oxide layer (col. 9, lines 5-20). Arbab also discloses that the primer layer is acts as a sacrificial layer to protect the metallic reflective layer from oxidation (col. 7, lines 45-60).

Arbab also discloses that the thickness of the MDE layer is 20-50 nm (col. 4, lines 1-10). The thickness of the primer layer can be about 0.8-1.2nm (col. 8, lines 1-20) in the absence of high temperature processing. Arbab also specify that (see col. 17, lines 25-30), the "high temperature processing" means operations, such as tempering, bending and annealing, which can rapidly elevate the glass temperature to temperatures within the ranges of about (1160F (627degree C) to 1250 F (677 degree C), preferably 1170F (632 degree C) to 1200F (649 degree C). Accordingly, at a temperature below the "high temperature processing" such as in the range of at least

500 degree C and less than 627 degree C, the thickness of the primer layer can still be 0.8-1.2 nm.

Arbab discloses the coated article comprising the same layered structure as claimed including the barrier layer having the same thickness in the absence of high temperature process (e.g. in the temperature range of 500- 627°C), the same coated article would also have the same properties such as substantially retaining its properties.

"Where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection." "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." In re Best, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). " *See* MPEP 2112.

Claim Rejections - 35 USC § 103

4. Claims 7 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbarb et al., as applied to claims 1 and 11 above, and further in view of Coustet et al. (W0-2002/048065, its US equivalent, US 2005/0123772, is used as English translation).

As stated above, Arbarb discloses the same coated substrate as recited in claims 1 and 11.

Regarding claim 7, Arbarb does not disclose the thickness of the silver layer as recited in claim 7.

Coustet teaches that the thickness of the silver layer can be 9.5-17.5 nm (see table on page 3). Coustet also teaches that a thin layer of metal may be inserted between functional layer and the coating placed beneath it and acts as a tie layer (which protect the functional layer, for example, from oxidation). The coating can be titanium, niobium, or nickel-chromium alloy layers (page 2, [0027).

Therefore, it would have been obvious to one of ordinary skill in the art to have a metal layer placed beneath the functional layer in order to protect the functional layer.

Regarding claim 13, Arbarb does not disclose the coated substrate comprising the lower dielectric layer as recited in claim 13.

Coustet teaches a lower dielectric layer structure of Si_3N_4/ZnO (page 2, [0029]) for a coated glass substrate. Coustet teaches that it is beneficial for the coatings to comprise both metal oxide layers such as ZnO layer for stabilizing the silver layer and silicon nitride layers for oxygen barrier (page 2, [0023]). The coated article comprising such layered structure is able to undergo a heat treatment of the bending or toughening type without any substantial optical change (page 1, [0005]).

Therefore, it would have been obvious to one of ordinary skill in the art to use the low dielectric layer structure as claimed for Arbab's anti-reflection dielectric layer in order to stabilize the silver layer, provide oxygen barrier, and to maintain the optical properties of the coated glass substrate even after a heat treatment, bending or toughening.

Regarding claims 14-16, Arbab discloses the coated glass is useful for architectural glazing and as vehicle windows to provide high light transmitting and low emissivity to the architecture or vehicle (cols 1-2).

Arbab does not disclose the specific layered structure of the double glazing as recited in claims 14-16.

However, it is well known in the art that the architectural or vehicle windows comprising multiple or double glazing structure. For example, Coustet teaches a multiple or double glazing comprising an inert film between the two glass substrates (page 2, [0030]) and at least one of the glass substrate coated with a low emissivity coating that comprising silver.

Therefore, it would have been obvious to one of ordinary skill in the art to provide Arbab's coated glass substrate in a double glazing structure as claimed in order to make the coated glass substrate suitable for architectural or vehicle windows.

5. Claims 1, 5, 7-8, 10-11, 13-16, and 21-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Arbab et al. in view of Coustet et al.

Regarding claims 1, 5, 8, 10-11, 14-16, and 22-25, Arbab discloses a multilayer high transmittance, a low emissivity coated article comprising a transparent glass substrate having deposited thereon in turn an antireflective base layer such as zinc oxide, a metallic reflective layer such as silver (col. 6, lines 50-60), a primer layer such as zirconium (col. 7, lines 45-60), a MDE layer comprising zinc oxide, and a protective overcoat oxide layer (col. 9, lines 5-20). Arbab also discloses that the primer layer is

acts as a sacrificial layer to protect the metallic reflective layer from oxidation (col. 7, lines 45-60).

Arbab also discloses that the thickness of the MDE layer is 20-50 nm (col. 4, lines 1-10). The thickness of the primer layer can be about 0.8-1.2nm (col. 8, lines 1-20) in the absence of high temperature processing. Arbab also specify that (see col. 17, lines 25-30), the "high temperature processing" means operations, such as tempering, bending and annealing, which can rapidly elevate the glass temperature to temperatures within the ranges of about (1160F (627degree C) to 1250 F (677 degree C). Accordingly, at a temperature below the "high temperature processing" such as in the range of at least 500 degree C and less than 627 degree C, the thickness of the primer layer can still be 0.8-1.2 nm.

Arbab does not disclose the barrier layer based on zirconium is situated beneath and in contact with the functional silver layer.

However, Arbab discloses that the coated article can be used in architectural glazing or glazing for vehicles (col. 5, lines 45-55). It is well known in the art that the architectural or vehicle windows comprising multiple or double glazing structure. For example, Coustet teaches a multiple or double glazing comprising two glass substrates (page 2, [0030]) and at least one of the glass substrate coated with a low emissivity coating that comprising silver.

It would have been obvious to one of ordinary skill in the art to provide Arbab's coated glass substrate in a double glazing structure as claimed in order to make the coated glass substrate suitable for architectural or vehicle windows.

It should be noted that, in a double glazing structure comprising two substrates, the Zr layer in the double glazing can be viewed as "above" the functional layer from the first substrate and "beneath" the functional layers from the second substrate. Accordingly, the location of the Zr layer can be viewed as either "above" or "beneath" the functional layers depending on the location of the specific substrate in a double glazing structure.

With respect to the limitation of "wherein said multilayer substantially retains its properties, after a heat treatment at a temperature of at least 500°C", the combination of Arbab and Coustet discloses the coated article comprising the same layered structure as claimed including the barrier layer having the same thickness in the absence of high temperature process (e.g. in the temperature range of 500- 627°C). Accordingly, the same coated article would also have the same properties such as substantially retaining its properties.

Regarding claim 7, Arbarb does not disclose the thickness of the silver layer as recited in claim 7.

Coustet teaches that the thickness of the silver layer can be 9.5-17.5 nm (see table on page 3). Coustet also teaches that a thin layer of metal may be inserted between functional layer and the coating placed beneath it and acts as a tie layer (which protect the functional layer, for example, from oxidation). The coating can be titanium, niobium, or nickel-chromium alloy layers (page 2, [0027).

Therefore, it would have been obvious to one of ordinary skill in the art to use the low dielectric layer structure as claimed for Arbab's anti-reflection dielectric layer in

order to stabilize the silver layer, provide oxygen barrier, and to maintain the optical properties of the coated glass substrate even after a heat treatment, bending or toughening.

Regarding claim 13, Arbarb does not disclose the coated substrate comprising the lower dielectric layer as recited in claim 13.

Coustet teaches a lower dielectric layer structure of Si_3N_4/ZnO (page 2, [0029]) for a coated glass substrate. Coustet teaches that it is beneficial for the coatings to comprise both metal oxide layers such as ZnO layer for stabilizing the silver layer and silicon nitride layers for oxygen barrier (page 2, [0023]). The coated article comprising such layered structure is able to undergo a heat treatment of the bending or toughening type without any substantial optical change (page 1, [0005]).

Therefore, it would have been obvious to one of ordinary skill in the art to use the low dielectric layer structure as claimed for Arbab's anti-reflection dielectric layer in order to stabilize the silver layer, provide oxygen barrier, and to maintain the optical properties of the coated glass substrate even after a heat treatment, bending or toughening.

Allowable Subject Matter

6. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7. Applicant's arguments filed on 8/31/2010 with respect to reference Arbab et al. have been considered but they are not persuasive.

Applicant argues that Arbarb does not describe the claimed composition with any specificity such that these limitations "are sufficiently limited or well delineated" to place the claimed composition in the possession of the public. See MPEP §2131.02 and Exparte A, Id.

As stated above, Arbab discloses a multilayer high transmittance, a low emissivity coated article comprising a transparent glass substrate having deposited thereon in turn an antireflective base layer, a metallic reflective layer, a primer layer, a MDE layer, and a protective overcoat oxide layer. Arbab specifically states that the antireflective base layer can zinc oxide and the metallic reflective layer can be silver (col. 6, lines 50-53) and the primer layer can be zirconium among a limited other 8 metals (col. 7, lines 45-50). "A genus does not always anticipate a claim to a species within the genus. However, when the species is clearly named, the species claim is anticipated no matter how many other species are additionally named. *Ex parte A, 17 USPQ2d 1716* (Bd. Pat. App. & Inter.1990), *see* MPEP 2131.02.

Applicant also argues that Arbarb clearly has its most preferred thicknesses, when subject to high temperature processing, to exceed 20 Angstroms (2 nm) including 22 and 24 Angstroms (see again, col. 8, liens 31-32).

As stated above, Arbab discloses that, if the coated article is expected to be subjected to high temperature processing, e.g. tempering, a thicker (greater than 2 nm) primer layer may be employed. Arbab also specify that (see col. 17, lines 25-30), the "high temperature processing" means "operations such as tempering, bending and annealing, which can rapidly elevate the glass temperature to temperatures within the ranges of about (1160F (627degree C) to 1250 F (677 degree C), preferably 1170F (632 degree C) to 1200F (649 degree C). Accordingly, at a temperature below the "high temperature processing" such as in the range of at least 500 degree C and less than 627 degree C, the thickness of the primer layer can still be 0.8-1.2 nm.

Arbab discloses the coated article comprising the same layered structure as claimed including the barrier layer having the same thickness in the absence of high temperature process (e.g. in the temperature range of 500- 627°C), the same coated article would also inherently have the same properties such as substantially retaining its properties.

"Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). "When the

structure recited in the reference is substantially identical to that of the claims, the claimed properties or functions are presumed inherent." MPEP 2112.01.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling Xu whose telephone number is 571-272-7414. The examiner can normally be reached on 8:00 am- 4:30 pm, Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jennifer McNeil can be reached on 571-272-1540. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ling Xu
Primary Examiner
Art Unit 1784

/Ling Xu/
Primary Examiner, Art Unit 1784
September 15, 2010